

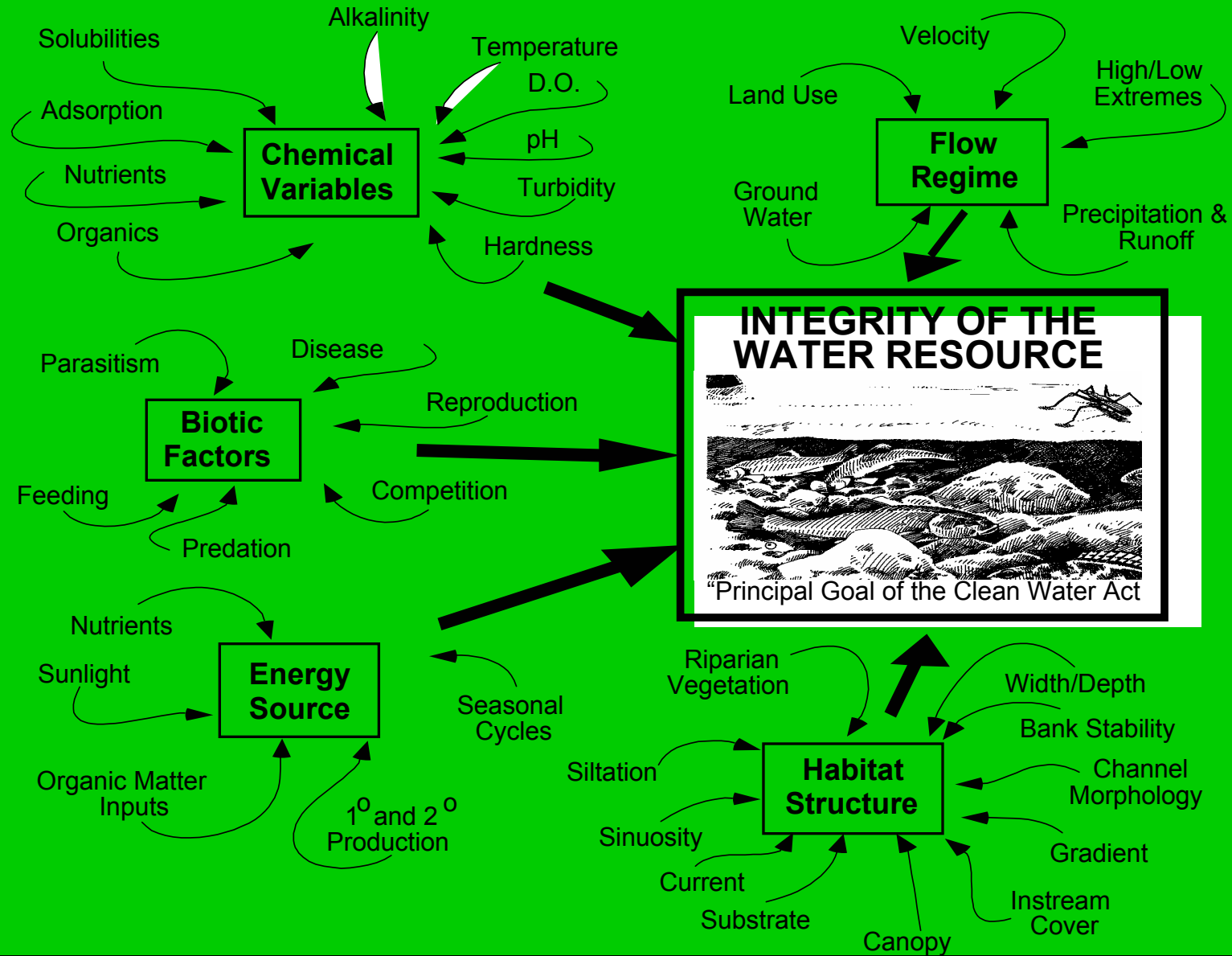


Hydrological and Ecological Connectivity Under the Clean Water Act: Science Gaps and Research Needs

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USGS Hydrological Linkages Workshop
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The Five Major Factors Which Determine the Integrity of Aquatic Resources



SWANCC

(Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers)

- Involved a CWA §404 permit for a landfill
- Corps asserted jurisdiction based on presence of migratory birds
 - As a type of (a)(3) interstate commerce link
- U.S. Supreme Court invalidated the use of the “Migratory Bird Rule” as sole basis for CWA jurisdiction
 - Addressed isolated, intrastate, non-navigable waters
 - Affects all CWA programs, not just §404

Post-SWANCC Actions

- December 2003 EPA and Corps decide against rulemaking
 - Extensive information provided in ANPRM comments available at:
<http://www.epa.gov/owow/wetlands/guidance/SWANCC/index.html>
- Prompted enhanced interagency coordination
 - Work together on controversial jurisdictional calls
 - Provide additional public information re: permitting, jurisdictional decisions
 - Encourage greater reliance on watershed planning
- Identify knowledge gaps and research needs

Post-SWANCC Litigation

- Approximately 35 Federal court decisions
 - None focus on (a)(3) isolated waters
 - Government consistently arguing *SWANCC* decision narrow
- 14 Circuit decisions, government prevailed in 13
 - Twelve indicate *SWANCC* focused on isolated, intrastate, non-navigable waters
 - Several indicate relevance of the ability of pollutants to flow to CWA jurisdiction
 - April 5th 2004: U.S. Supreme Court denies petitions to review for six post-*SWANCC* decisions. One petition for current term recently filed.



Litigation Results to Date: Jurisdictional Aquatic Systems Post-SWANCC

- Non-navigable tributaries
- Headwaters, intermittent and ephemeral streams
- Adjacent wetlands generally
- Ditches and canals generally
- Waters upstream from pipes and culverts generally

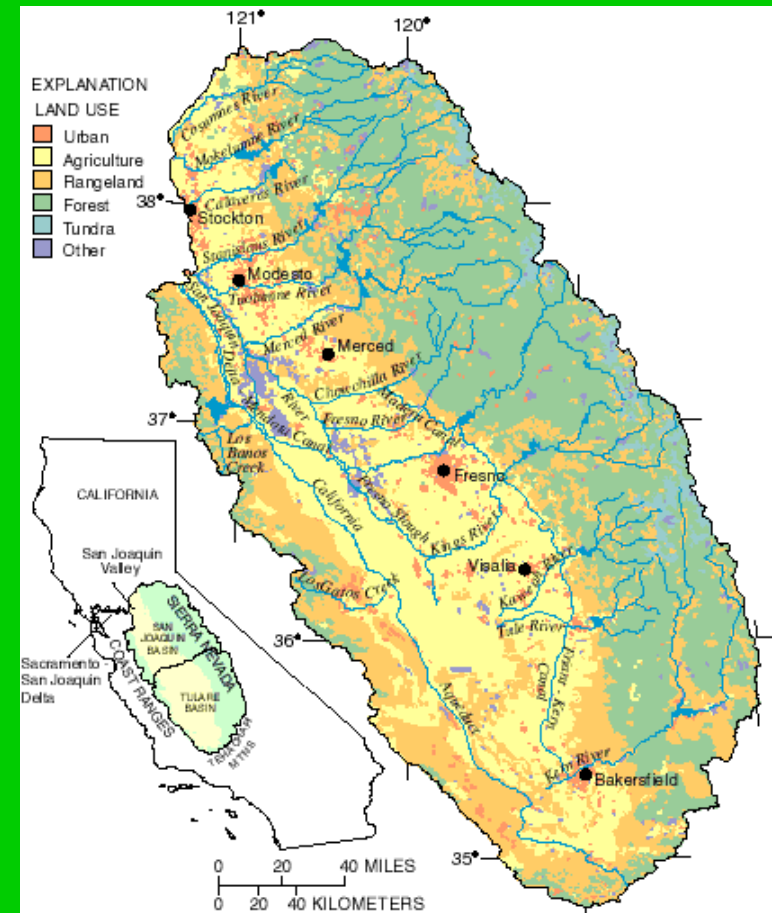
Areas of Continuing Controversy

- What is legally considered “isolated”
- Outer extent of “tributary” and “adjacent”
- **Where waters are no longer “waters of the U.S.”, protection will have to come from outside the CWA.**

Areas of Continuing Controversy: Closed Basins

USGS

- Occur mostly in the arid West
- For Example:
 - >California's Central Valley
 - >20% of New Mexico land area is within closed basins



How States, Tribes and Local Agencies Can Use Their Authorities

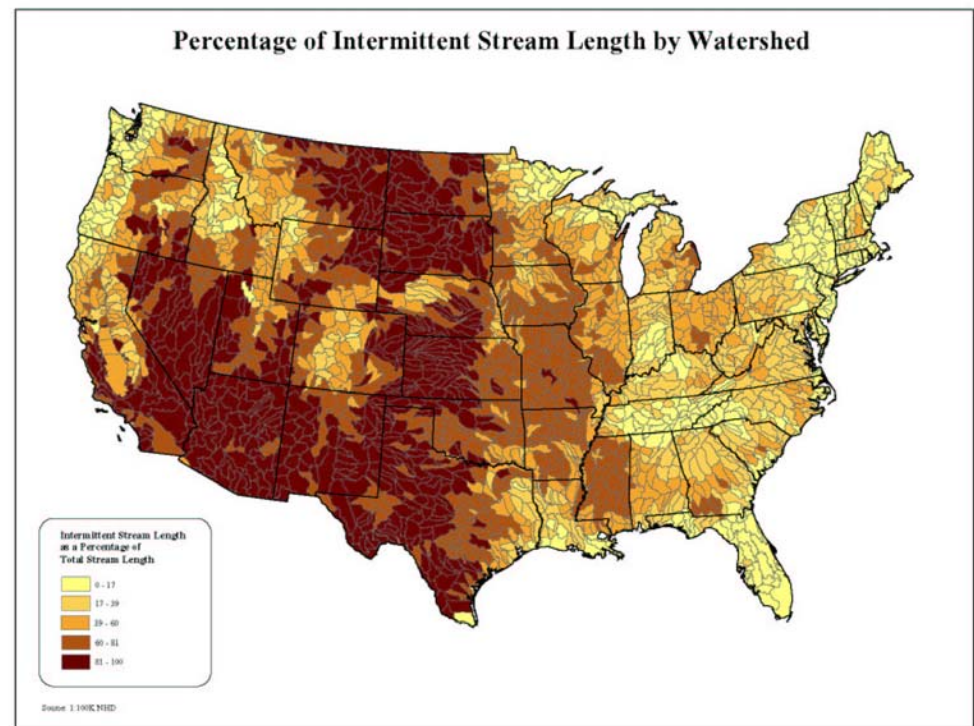
- Enact “gap-filling” legislation
 - Federal CWA protection is the floor, not the ceiling. States can be more stringent.
- Implement existing authorities
- Prioritize waters/wetlands for S/T/LG protection efforts
 - Non-regulatory grant programs
 - Watershed planning
- Identify and collect data on waters with uncertain CWA protection to inform decision-making

Science Informs Decision-Making

- Continued post-SWANCC debate in the legal and regulatory arenas makes it timely to improve our scientific understanding of geographically isolated wetlands and waters
- Federal policy debate and regulatory definition of “isolated”
 - Characterization of hydrologic, chemical, biological connections

Science Informs Decision-Making

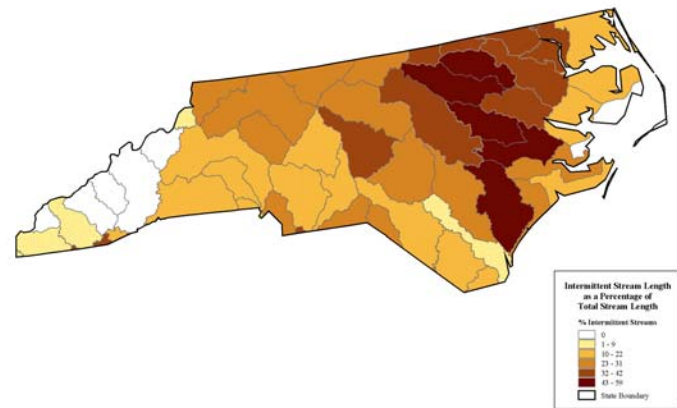
- Supporting non-federal protection of isolated waters
- Regionally unique and valued types
 - Functions in watershed
 - Distribution and extent
 - Economic contributions
- Landscape perspective
 - Spatial configuration
 - Disproportionate contribution (ecological function, societal benefits)



Key Policy Areas

- “Significant Nexus”
 - (functional links)
between ‘isolated’ and
other aquatic resources

Percentage of Intermittent Stream Length by Watershed
in North Carolina



Legend: This map shows the percentage of intermittent and ephemeral streams, relative to total stream length, within each watershed. This analysis highlights the regional pattern of intermittent and ephemeral stream occurrences in North Carolina. There are 167,798 total kilometers of linear streams in watersheds that are totally or partially contained within North Carolina state boundaries. Of these, 25% (38,389 km) are intermittent and ephemeral. Based on data from the National Hydrography Dataset at medium resolution. One mile is equal to 1.61 kilometers.

Caveats:

- NHD data generally does not capture streams under one mile in length.

Source Data:

- NHD from Reach Address Database (RAD) v2 at 1:100,000 scale using 8 digit HUC watersheds.
- Intermittent streams in the NHD include streams containing waters for only part of the year, and ephemeral streams.

DRAFT: PRE-DECISIONAL, CONFIDENTIAL

December 21, 2004

Key Policy Areas

- Assessing hydrological, chemical, and biological functional linkages
- Prioritizing protection and restoration of vulnerable aquatic systems
- Analyzing contribution to broader water quality and environmental goals

Additional Information

- Access to State, and other, ANPRM comments:
<http://www.epa.gov/owow/wetlands/guidance/SWANCC/index.html>
- Isolated Wetlands Special Issue. 2003. *Wetlands* 23(3).
- nadeau.tracie@epa.gov